AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (withdrawn) A method of treating multiple myeloma or lymphoma in a patient, the method comprising administering to the patient, a recombinant antibody-based molecule comprising two targeting units and two antigenic units connected through a dimerization motif, or a nucleic acid encoding said recombinant antibody-based molecule

2. (withdrawn) The method of claim 1, wherein administering the nucleic acid comprises delivering the nucleic acid by electroporation.

3. (withdrawn) The method of claim 1, wherein said targeting unit(s) is/are a single chain fragment variable of Ig (scFv).

4. (withdrawn) The method of claim 3, wherein said scFv is anti-HLA, anti-CD14, anti-CD40, or anti-toll-like receptor.

5. (withdrawn) The method of claim 4, wherein said anti-HLA is anti-HLA-DP.

6. (withdrawn) The method of claim 4, wherein said anti-toll-like receptor is anti-toll-like receptor 2.

7. (withdrawn) The method of claim 1, wherein at least one targeting unit is a ligand.

8. (withdrawn) The method of claim 7, wherein said ligand is soluble CD40 ligand or a chemokine.

9. (withdrawn) The method of claim 7, wherein said ligand is a chemokine.

10. (withdrawn) The method of claim 9, wherein said chemokine is RANTES or MIP-1α.

11. (withdrawn) The method of claim 9, wherein said chemokine is MIP-1α.

12. (withdrawn) The method of claim 1, wherein at least one targeting unit is a bacterial antigen.

13. (withdrawn – previously presented) The method of claim 12, wherein the bacterial antigen is a flagellin.

14. (withdrawn) The method of claim 1, wherein the targeting units have the ability to target antigen presenting cells (APC).

15. (withdrawn – previously presented) The method of claim 1, wherein the targeting units have the ability to target HLA, CD14, CD40, a toll-like receptor, or a chemokine receptor.

16. (withdrawn) The method of claim 15, wherein said HLA is HLA-DP

17. (withdrawn – previously presented) The method of claim 1, wherein the targeting units have the ability to target a chemokine receptor.

18. (withdrawn) The method of claim 1, wherein the antigenic unit(s) is/are an antigenic scFv.

19. (withdrawn) The method of claim 18, wherein the antigenic scFv is derived from a monoclonal Ig produced by myeloma or lymphoma.

20. (withdrawn) The method of claim 18, wherein the antigenic unit(s) is/are a telomerase, or a functional part thereof.

21. (withdrawn) The method of claim 20, wherein said telomerase is hTERT.

22. (withdrawn) The method of claim 1, wherein the antigenic unit(s) is/are derived from a bacterium.

23. (withdrawn) The method of claim 22, wherein the bacterium derived antigenic unit(s) is/are a tuberculosis antigen.

24. (withdrawn) The method of claim 1, wherein the antigenic unit(s) is/are derived from a virus.

25. (withdrawn) The method of claim 24, wherein the virus derived antigenic unit(s) is/are derived from HIV.

26. (withdrawn) The method of claim 25, wherein the HIV derived antigenic unit(s) is/are derived from gp120.

27. (withdrawn) The method of claim 1, wherein the dimerization motif comprises a hinge region and an immunoglobulin domain.

28. (withdrawn) The method of claim 27, wherein the hinge region is Ig derived.

29. (withdrawn) The method of claim 27, wherein the hinge region has the ability to form one or several covalent bonds.

30. (withdrawn) The method of claim 29, wherein the covalent bond is a disulphide bridge.

31. (withdrawn) The method of claim 27, wherein the immunoglobulin domain is a carboxyterminal C domain, or a sequence that is substantially homologous to said C domain.

32. (withdrawn) The method of claim 31, wherein the carboxyterminal C domain is derived from IgG.

33. (withdrawn) The method of claim 27, wherein the immunoglobulin domain has the ability to homodimerize.

34. (withdrawn) The method of claim 33, wherein said immunoglobulin domain has the ability to homodimerize via noncovalent interactions.

35. (withdrawn) The method of claim 34, wherein said noncovalent interactions are hydrophobic interactions.

36. (withdrawn) The method of claim 1, comprising administering the nucleic acid to the patient to induce production of the recombinant antibody-based molecule.

37. (withdrawn) The method of claim 1, comprising administering a vector comprising the nucleic acid.

38-76. (cancelled)

77. (withdrawn) A method of preparing a recombinant antibody-based molecule comprising:

a. transfecting the vector of claim 73 into a cell population;

b. culturing the cell population;

c. collecting recombinant protein expressed from the cell population; and

d. purifying the expressed protein.

78-82. (cancelled)

83. (currently amended) A nucleic acid encoding a monomer unit of a recombinant antibody-based dimeric molecule, wherein said antibody-based dimeric molecule comprises two ~~targeting units and two antigenic units that are~~ of said monomer units connected through a dimerization motif, said dimerization motif comprising a hinge region and a Cγ3 domain of each monomer unit, wherein each hinge region contributes to dimerization via disulfide bridging to the other hinge region and each Cγ3 domain contributes to dimerization via hydrophobic interactions to the other Cγ3 domain, and wherein said monomer units each

comprises an antigenic unit and a targeting unit for an antigen presenting cell, and wherein said monomer units each lack a CH2 domain.

84. (previously presented) The nucleic acid of claim 83, wherein at least one of said targeting units is a single chain fragment variable of Ig (scFv).

85. (previously presented) The nucleic acid of claim 84, wherein said scFv is anti-HLA, anti-CD14, anti-CD40, or anti-toll-like receptor.

86. (previously presented) The nucleic acid of claim 85, wherein said anti-HLA is anti-HLA-DP.

87. (previously presented) The nucleic acid of claim 85, wherein said anti-toll-like receptor is anti-toll-like receptor 2.

88. (previously presented) The nucleic acid of claim 83, wherein at least one of said targeting units is a ligand.

89. (previously presented) The nucleic acid of claim 88, wherein said ligand is soluble CD40 ligand or a chemokine.

90. (previously presented) The nucleic acid of claim 88, wherein said ligand is a chemokine.

91. (currently amended) The nucleic acid of claim 90, wherein said chemokine is RANTES or ~~MIP-1α~~ Macrophage Inflammatory Protein 1 alpha.

92. (previously presented) The nucleic acid of claim 90, wherein said chemokine is MIP-1α.

93. (previously presented) The nucleic acid of claim 83, wherein at least one of said targeting units is a bacterial antigen.

94. (previously presented) The nucleic acid of claim 93, wherein said bacterial antigen is a flagellin.

95. (previously presented) The nucleic acid of claim 83, wherein said targeting units have the ability to target antigen presenting cells (APC).

96. (currently amended) The nucleic acid of claim 83, wherein said targeting units have the ability to target ~~HLA, CD14, CD40, a toll-like receptor, or~~ a chemokine receptor.

97. (withdrawn-currently amended) The nucleic acid of claim ~~96~~83, wherein said targeting units have the ability to target CD14, CD40, a toll-like receptor, or HLA ~~is~~or HLA-DP.

98. (previously presented) The nucleic acid of claim 83, wherein said targeting units have the ability to target a chemokine receptor.

99. (previously presented) The nucleic acid of claim 83, wherein at least one of said antigenic units is an antigenic scFv.

100. (currently amended) The nucleic acid of claim 99, wherein said antigenic scFv is ~~derived from~~ identical to a monoclonal Ig produced by myeloma or lymphoma.

101. (previously presented) The nucleic acid of claim 83, wherein at least one of said antigenic unit is a telomerase or a functional part thereof.

102. (previously presented) The nucleic acid of claim 101, wherein said telomerase is hTERT.

103. (previously presented) The nucleic acid of claim 83, wherein at least one of said antigenic units is derived from an infectious agent.

104. (previously presented) The nucleic acid of any one of claims 83 or 103, wherein at least one of said antigenic units is derived from a bacterium.

105. (previously presented) The nucleic acid of claim 104, wherein said bacterium-derived antigenic unit(s) is/are a tuberculosis antigen.

106. (previously presented) The nucleic acid of any one of claims 83 or 103, wherein at least one of said antigenic units is derived from a virus.

107. (previously presented) The nucleic acid of claim 106, wherein said virus-derived antigenic unit(s) is/are derived from HIV.

108. (previously presented) The nucleic acid of claim 107, wherein said HIV-derived antigenic unit(s) is/are derived from gp120.

109. (previously presented) The nucleic acid of claim 83, wherein said dimerization motif comprises a hinge region and an immunoglobulin domain.

110. (currently amended) The nucleic acid of claim 109, wherein said hinge region is ~~Ig-derived~~ from Ig.

111. (previously presented) The nucleic acid of claim 109, wherein the hinge region has the ability to form one or several covalent bonds.

112. (previously presented) The nucleic acid of claim 111, wherein said covalent bond is a disulphide bridge.

113. (currently amended) The nucleic acid of claim 109, wherein said immunoglobulin domain is a carboxyterminal C domain or a sequence that is ~~substantially~~ homologous to said C domain.

114. (currently amended) The nucleic acid of claim 113, wherein said carboxyterminal C domain is ~~derived~~ from IgG.

115. (previously presented) The nucleic acid of claim 109, wherein said immunoglobulin domain has the ability to homodimerize.

116. (previously presented) The nucleic acid of claim 109, wherein said immunoglobulin domain has the ability to homodimerize via noncovalent interactions.

117. (previously presented) The nucleic acid of claim 116, wherein said noncovalent interactions are hydrophobic interactions.

118. (previously presented) The nucleic acid of claim 83, formulated for administration to a patient to induce production of said recombinant antibody-based molecule.

119. (previously presented) A vector comprising the nucleic acid according to claim 83.

120. (previously presented) A cell line comprising a nucleic acid according to claim 83 or the vector according to claim 119.

121. (currently amended) A pharmaceutical composition comprising a nucleic acid according to claim 83 ~~or a degenerate variant thereof~~ or the vector of claim 119, in combination with a physiologically acceptable diluent or carrier.

122. (previously presented) A pharmaceutical composition comprising a cell of the cell line according to claim 120, in combination with a physiologically acceptable diluent or carrier.

123. (previously presented) A kit for preparation of a recombinant antibody-based molecule encoded by the nucleic acid according to claim 83, the kit comprising a nucleic acid according to claim 83.

124. (currently amended) A vaccine composition ~~against cancer or infectious disease,~~ comprising an immunologically effective amount of the nucleic acid according to claim 83 ~~or a degenerate variant thereof~~, wherein said composition is able to trigger both a T-cell- and B-cell immune response.

125. (previously presented) The vaccine composition of claim 124, further comprising a pharmaceutically acceptable carrier.

126. (currently amended)The vaccine composition of 124 ~~any one of claims 124 or 125~~, wherein said ~~cancer is~~ composition is immunologically effective against multiple myeloma or lymphoma.

127-130. (cancelled)